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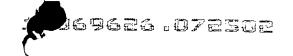
<110> Green et al.

- <120> Polynucleotides Encoding Members of the Human B

 Lymphocyte Activation Antigen B-7 Family and

 Polypeptides Encoded Thereby
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- <140> 10/069,626
- <141> 2000-08-31
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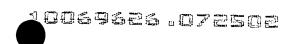
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Gln Asp Ala His Ser Ser Val Thr Ile Thr Pro Gln Arg Ser Pro Thr



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10069626.072502

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Ser C	'ys	Leu	Val	Arg	Asn	Pro	Val	Leu	Gln	Gln	Asp	Ala	His	Gly	Ser	
	-	245		_			250					255				
		_ 10														
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gtc a																932
Val T	hr	Ile	Thr	Gly	Gln	Pro	Met	Thr	Phe	Pro	Pro	Glu	Ala	Leu	Trp	



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Ile	Ala															
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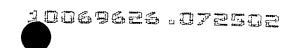
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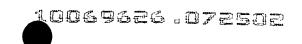
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Phe	Pro	Pro	Glu	Ala	Leu	Trp	Val	Thr	Val	Gly	Leu	Ser	Val	Cys	Leu	

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530

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Pro Asp Leu Leu Ala Gln Gly Asn Ala Ser Leu Arg Leu Gln Arg Val

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Pro Ser Met Thr Leu Glu Pro Asn Lys Asp Leu Arg Pro Gly Asp Thr

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Asp Thr Lys Gln Leu Val His Ser Phe Thr Glu Gly Arg Asp Gln Gly
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Gly Asn Ala Ser Leu Arg Leu Gln Arg Val Arg Val Ala Asp Glu Gly

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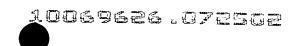
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Ala His Gly Ser Val Thr Ile Thr Gly Gln Pro Met Thr Phe Pro Pro



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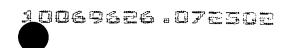
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<212> DNA

<213> Homo sapiens

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<212> PRT

<213> Homo sapiens

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Met Gly His Thr Arg Arg Gln Gly Thr Ser Pro Ser Lys Cys Pro Tyr

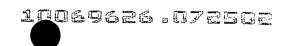
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Leu Asn Phe Phe Gln Leu Leu Val Leu Ala Gly Leu Ser His Phe Cys

20 25 30

Ser Gly Val Ile His Val Thr Lys Glu Val Lys Glu Val Ala Thr Leu

35 40 45



Ser Cys Gly His Asn Val Ser Val Glu Glu Leu Ala Gln Thr Arg Ile
50 55 60

Tyr Trp Gln Lys Glu Lys Lys Met Val Leu Thr Met Met Ser Gly Asp
65 70 75 80

Met Asn Ile Trp Pro Glu Tyr Lys Asn Arg Thr Ile Phe Asp Ile Thr

85 90 95

Asn Asn Leu Ser Ile Val Ile Leu Ala Leu Arg Pro Ser Asp Glu Gly
100 105 110

Thr Tyr Glu Cys Val Val Leu Lys Tyr Glu Lys Asp Ala Phe Lys Arg

115 120 125

Glu His Leu Ala Glu Val Thr Leu Ser Val Lys Ala Asp Phe Pro Thr
130 135 140

Pro Ser Ile Ser Asp Phe Glu Ile Pro Thr Ser Asn Ile Arg Arg Ile
145 150 155 160

Ile Cys Ser Thr Ser Gly Gly Phe Pro Glu Pro His Leu Ser Trp Leu

165 170 175

Glu Asn Gly Glu Glu Leu Asn Ala Ile Asn Thr Thr Val Ser Gln Asp

180 185 190

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Pro Glu Thr Glu Leu Tyr Ala Val Ser Ser Lys Leu Asp Phe Asn Met

195 200 205

Thr Thr Asn His Ser Phe Met Cys Leu Ile Lys Tyr Gly His Leu Arg
210 215 220

Val Asn Gln Thr Phe Asn Trp Asn Thr Thr Lys Gln Glu His Phe Pro
225 230 235 240

Asp Asn Leu Leu Pro Ser Trp Ala Ile Thr Leu Ile Ser Val Asn Gly
245 250 255

Ile Phe Val Ile Cys Cys Leu Thr Tyr Cys Phe Ala Pro Arg Cys Arg
260 265 270

Glu Arg Arg Arg Asn Glu Arg Leu Arg Arg Glu Ser Val Arg Pro Val
275 280 285

<210> 14

<211> 288

<212> PRT

<213> Macaca mulatta

<400> 14

Met Gly His Thr Arg Arg Gln Glu Ile Ser Pro Ser Lys Cys Pro Tyr

1 5 10 15

Leu Lys Phe Phe Gln Leu Leu Val Leu Ala Cys Leu Ser His Phe Cys

20 25 30

Ser Gly Val Ile His Val Thr Lys Glu Val Lys Glu Val Ala Thr Leu

35 40 45

Ser Cys Gly His Asn Val Ser Val Glu Glu Leu Ala Gln Thr Arg Ile
50 55 60

Tyr Trp Gln Lys Glu Lys Lys Met Val Leu Thr Met Met Ser Gly Asp
65 70 75 80

Met Asn Ile Trp Pro Glu Tyr Lys Asn Arg Thr Ile Phe Asp Ile Thr

85 90 95

Asn Asn Leu Ser Ile Val Ile Leu Ala Leu Arg Pro Ser Asp Glu Gly
100 105 110

Thr Tyr Glu Cys Val Val Leu Lys Tyr Glu Lys Asp Ala Phe Lys Arg

Glu His Leu Ala Glu Val Met Leu Ser Val Lys Ala Asp Phe Pro Thr

130 135 140

Pro Ser Ile Thr Asp Ser Glu Ile Pro Pro Ser Asn Ile Arg Arg Ile

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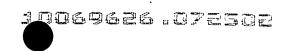
Ile Cys Ser Asn Ser Gly Gly Phe Pro Glu Pro His Leu Ser Trp Leu Glu Asn Gly Glu Glu Leu Asn Ala Ile Ser Thr Thr Val Ser Gln Asp Pro Glu Thr Glu Leu Tyr Thr Val Ser Ser Lys Leu Asp Phe Asn Met Thr Thr Asn His Ser Phe Met Cys Leu Ile Lys Tyr Gly His Leu Arg Val Asn Gln Thr Phe Asn Trp Asn Thr Pro Lys Gln Glu His Phe Pro Asp Asn Leu Leu Pro Ser Trp Ala Ile Ile Leu Ile Ser Val Asn Gly Ile Phe Val Ile Cys Cys Leu Thr Tyr Cys Phe Ala Pro Arg Cys Arg

Glu Arg Arg Arg Asn Glu Thr Leu Arg Arg Glu Ser Val Arg Pro Val

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Asn Leu Ser Leu Met Ile Leu Ala Leu Arg Leu Ser Asp Lys Gly Thr



Tyr Thr Cys Val Val Gln Lys Asn Glu Asn Gly Ser Phe Arg Arg Glu
115 120 125

His Leu Thr Ser Val Thr Leu Ser Ile Arg Ala Asp Phe Pro Val Pro
130 135 140

Ser Ile Thr Asp Ile Gly His Pro Asp Pro Asn Val Lys Arg Ile Arg 145 150 155 160

Cys Ser Ala Ser Gly Gly Phe Pro Glu Pro Arg Leu Ala Trp Met Glu

165 170 175

Asp Gly Glu Glu Leu Asn Ala Val Asn Thr Thr Val Asp Gln Asp Leu
180 185 190

Asp Thr Glu Leu Tyr Ser Val Ser Ser Glu Leu Asp Phe Asn Val Thr
195 200 205

Asn Asn His Ser Ile Val Cys Leu Ile Lys Tyr Gly Glu Leu Ser Val
210 215 220

Ser Gln Ile Phe Pro Trp Ser Lys Pro Lys Gln Glu Pro Pro Ile Asp 225 230 235 240

Gln Leu Pro Phe Trp Val Ile Ile Pro Val Ser Gly Ala Leu Val Leu
245 250 255

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Thr Ala Val Val Leu Tyr Cys Leu Ala Cys Arg His Val Ala Arg Trp

260 265 270

Lys Arg Thr Arg Arg Asn Glu Glu Thr Val Gly Thr Glu Arg Leu Ser
275 280 285

Pro Ile Tyr Leu Gly Ser Ala Gln Ser Ser Gly
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<210> 16

<211> 292

<212> PRT

<213> Felis catus

<400> 16

Met Gly His Ala Ala Lys Trp Lys Thr Pro Leu Leu Lys His Pro Tyr

1 5 10 15

Pro Lys Leu Phe Pro Leu Leu Met Leu Ala Ser Leu Phe Tyr Phe Cys
20 25 30

Ser Gly Ile Ile Gln Val Asn Lys Thr Val Glu Glu Val Ala Val Leu

35 40 45

Ser Cys Asp Tyr Asn Ile Ser Thr Lys Glu Leu Thr Glu Ile Arg Ile
50 55 60



Tyr Trp Gln Lys Asp Asp Glu Met Val Leu Ala Val Met Ser Gly Lys
65 70 75 80

Val Gln Val Trp Pro Lys Tyr Lys Asn Arg Thr Phe Thr Asp Val Thr

85 90 95

Asp Asn His Ser Ile Val Ile Met Ala Leu Arg Leu Ser Asp Asn Gly

100 105 110

Lys Tyr Thr Cys Ile Ile Gln Lys Ile Glu Lys Gly Ser Tyr Lys Val
115 120 125

Lys His Leu Thr Ser Val Met Leu Leu Val Arg Ala Asp Phe Pro Val

130 135 140

Pro Ser Ile Thr Asp Leu Gly Asn Pro Ser His Asn Ile Lys Arg Ile
145 150 155 160

Met Cys Leu Thr Ser Gly Gly Phe Pro Lys Pro His Leu Ser Trp Leu
165 170 175

Glu Asn Glu Glu Leu Asn Ala Ile Asn Thr Thr Val Ser Gln Asp
180 185 190

Pro Glu Thr Glu Leu Tyr Thr Ile Ser Ser Glu Leu Asp Phe Asn Met
195 200 205

Thr Asn Asn His Ser Phe Leu Cys Leu Val Lys Tyr Gly Asn Leu Leu

210 215 220

Val Ser Gln Ile Phe Asn Trp Gln Lys Ser Glu Pro Gln Pro Ser Asn 225 230 235 240

Asn Gln Leu Trp Ile Ile Ile Leu Ser Ser Val Val Ser Gly Ile Val
245 250 255

Val Ile Thr Ala Leu Thr Leu Arg Cys Leu Val His Arg Pro Ala Ala
260 265 270

Arg Trp Arg Gln Arg Glu Met Gly Arg Ala Arg Lys Trp Lys Arg Ser
275 280 285

His Leu Ser Thr

290

<210> 17

<211> 306

<212> PRT

<213> mus sp.

<400> 17

Met Ala Cys Asn Cys Gln Leu Met Gln Asp Thr Pro Leu Leu Lys Phe

1 5 10 15

Pro Cys Pro Arg Leu Ile Leu Leu Phe Val Leu Leu Ile Arg Leu Ser

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20 25 30

Gln Val Ser Ser Asp Val Asp Glu Gln Leu Ser Lys Ser Val Lys Asp

35 40 45

Lys Val Leu Leu Pro Cys Arg Tyr Asn Ser Pro His Glu Asp Glu Ser 50 55 60

Glu Asp Arg Ile Tyr Trp Gln Lys His Asp Lys Val Val Leu Ser Val
65 70 75 80

Ile Ala Gly Lys Leu Lys Val Trp Pro Glu Tyr Lys Asn Arg Thr Leu

85 90 95

Tyr Asp Asn Thr Thr Tyr Ser Leu Ile Ile Leu Gly Leu Val Leu Ser

100 105 110

Asp Arg Gly Thr Tyr Ser Cys Val Val Gln Lys Lys Glu Arg Gly Thr

115 120 125

Tyr Glu Val Lys His Leu Ala Leu Val Lys Leu Ser Ile Lys Ala Asp 130 135 140

Lys Arg Ile Thr Cys Phe Ala Ser Gly Gly Phe Pro Lys Pro Arg Phe
165 170 175

Ser Trp Leu Glu Asn Gly Arg Glu Leu Pro Gly Ile Asn Thr Thr Ile

180 185 190

Ser Gln Asp Pro Glu Ser Glu Leu Tyr Thr Ile Ser Ser Gln Leu Asp
195 200 205

Phe Asn Thr Thr Arg Asn His Thr Ile Lys Cys Leu Ile Lys Tyr Gly
210 215 220

Asp Ala His Val Ser Glu Asp Phe Thr Trp Glu Lys Pro Pro Glu Asp
225 230 235 240

Pro Pro Asp Ser Lys Asn Thr Leu Val Leu Phe Gly Ala Gly Phe Gly
245 250 255

Ala Val Ile Thr Val Val Val Ile Val Val Ile Ile Lys Cys Phe Cys
260 265 270

Lys His Arg Ser Cys Phe Arg Arg Asn Glu Ala Ser Arg Glu Thr Asn
275
280
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Asn Ser Leu Thr Phe Gly Pro Glu Glu Ala Leu Ala Glu Gln Thr Val
290 295 300

Phe Leu

10069626.072502

<210> 18

<211> 329

<212> PRT

<213> Felis catus

<400> 18

Met Gly Ile Cys Asp Ser Thr Met Gly Leu Ser His Thr Leu Leu Val

Met Ala Leu Leu Ser Gly Val Ser Ser Met Lys Ser Gln Ala Tyr

Phe Asn Lys Thr Gly Glu Leu Pro Cys His Phe Thr Asn Ser Gln Asn

Ile Ser Leu Asp Glu Leu Val Val Phe Trp Gln Asp Gln Asp Lys Leu

Val Leu Tyr Glu Ile Phe Arg Gly Lys Glu Asn Pro Gln Asn Val His

Leu Lys Tyr Lys Gly Arg Thr Ser Phe Asp Lys Asp Asn Trp Thr Leu

Arg Leu His Asn Val Gln Ile Lys Asp Lys Gly Thr Tyr His Cys Phe

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 Ile His Tyr Lys Gly Pro Lys Gly Pro Lys Gly Leu Val Pro Met His Gln Met Ser

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Thr Ser Asn Arg Thr Glu Asn Ser Gly Ile Ile Asn Leu Thr Cys Ser 145 150 155 160

Ser Ile Gln Gly Tyr Pro Glu Pro Lys Glu Met Tyr Phe Gln Leu Asn 165 170 175

Thr Glu Asn Ser Thr Thr Lys Tyr Asp Thr Val Met Lys Lys Ser Gln
180 185 190

Asn Asn Val Thr Glu Leu Tyr Asn Val Ser Ile Ser Leu Pro Phe Ser

195 200 205

Val Pro Glu Ala His Asn Val Ser Val Phe Cys Ala Leu Lys Leu Glu 210 215 220

Thr Leu Glu Met Leu Leu Ser Leu Pro Phe Asn Ile Asp Ala Gln Pro 225 230 235 240

Lys Asp Lys Asp Pro Glu Gln Gly His Phe Leu Trp Ile Ala Ala Val
245 250 255

Leu Val Met Phe Val Val Phe Cys Gly Met Val Ser Phe Lys Thr Leu

. . .

260 265 270

Arg Lys Arg Lys Lys Gln Pro Gly Pro Ser His Glu Cys Glu Thr
275 280 285

Ile Lys Arg Glu Arg Lys Glu Ser Lys Gln Thr Asn Glu Arg Val Pro
290 295 300

Tyr His Val Pro Glu Arg Ser Asp Glu Ala Gln Cys Val Asn Ile Leu 305 310 315 320

Lys Thr Ala Ser Gly Asp Lys Asn Gln $\,$

325

<210> 19

<211> 329

<212> PRT

<213> Canis familiaris

<400> 19

Met Tyr Leu Arg Cys Thr Met Glu Leu Asn Asn Ile Leu Phe Val Met

1 5 10 15

Thr Leu Leu Tyr Gly Ala Ala Ser Met Lys Ser Gln Ala Tyr Phe
20 25 30

Asn Lys Thr Gly Glu Leu Pro Cys His Phe Thr Asn Ser Gln Asn Ile

, ,

35 40 45

Ser Leu Asp Glu Leu Val Val Phe Trp Gln Asp Gln Asp Lys Leu Val
50 55 60

Leu Tyr Glu Leu Tyr Arg Gly Lys Glu Asn Pro Gln Asn Val His Arg

70 75 80

Lys Tyr Lys Gly Arg Thr Ser Phe Asp Lys Asp Asn Trp Thr Leu Arg

85 90 95

Leu His Asn Ile Gln Ile Lys Asp Lys Gly Leu Tyr Gln Cys Phe Val

100 105 110

His His Lys Gly Pro Lys Gly Leu Val Pro Met His Gln Met Asn Ser

Asp Leu Ser Val Leu Ala Asn Phe Ser Gln Pro Glu Ile Met Val Thr
130 135 140

Ser Asn Arg Thr Glu Asn Ser Gly Ile Ile Asn Leu Thr Cys Ser Ser 145 150 150 160

Ile Gln Gly Tyr Pro Glu Pro Lys Glu Met Tyr Phe Leu Val Lys Thr
165 170 175

Glu Asn Ser Ser Thr Lys Tyr Asp Thr Val Met Lys Lys Ser Gln Asn
180 185 190

Asn Val Thr Glu Leu Tyr Asn Val Ser Ile Ser Leu Ser Phe Ser Val
195 200 205

Pro Glu Ala Ser Asn Val Ser Ile Phe Cys Val Leu Gln Leu Glu Ser
210 215 220

Met Lys Leu Pro Ser Leu Pro Tyr Asn Ile Asp Ala His Thr Lys Pro
225 230 235 240

Thr Pro Asp Gly Asp His Ile Leu Trp Ile Ala Ala Leu Leu Val Met
245 250 255

Leu Val Ile Leu Cys Gly Met Val Phe Phe Leu Thr Leu Arg Lys Arg
260 265 270

Lys Lys Gln Pro Gly Pro Ser His Glu Cys Glu Thr Asn Lys Val
275 280 285

Glu Arg Lys Glu Ser Glu Gln Thr Lys Glu Arg Val Arg Tyr His Glu
290 295 300

Thr Glu Arg Ser Asp Glu Ala Gln Cys Val Asn Ile Ser Lys Thr Ala 305 310 315 320

Ser Gly Asp Asn Ser Thr Thr Gln Phe

10069626.072502

<210> 20

<211> 325

<212> PRT

<213> sus sp.

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Met Gly Leu Ser Asn Ile Leu Phe Val Met Val Leu Leu Ser Gly

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Ala Ala Ser Leu Lys Ser Gln Ala Tyr Phe Asn Glu Thr Gly Glu Leu

20 25 30

Pro Cys His Phe Thr Asn Ser Gln Asn Leu Ser Leu Asp Glu Leu Val

35 40 45

Ile Phe Trp Gln Asp Gln Asp Asn Leu Val Leu Tyr Glu Leu Tyr Arg

50 55 60

Gly Gln Glu Lys Pro His Asn Val Asn Ser Lys Tyr Met Gly Arg Thr

65 70 75 80

Ser Phe Asp Gln Ala Thr Trp Thr Leu Arg Leu His Asn Val Gln Ile

90 95

Lys Asp Lys Gly Ser Tyr Gln Cys Phe Ile His His Lys Gly Pro His

100 105 110

Gly Leu Val Pro Ile His Gln Met Ser Ser Asp Leu Ser Leu Leu Ala 115 120 125

Asn Phe Ser Gln Pro Glu Ile Asn Leu Leu Thr Asn His Thr Glu Asn 130 135 140

Ser Val Ile Asn Leu Thr Cys Ser Ser Thr Gln Gly Tyr Pro Glu Pro

145 150 155 160

Gln Arg Met Tyr Met Leu Leu Asn Thr Lys Asn Ser Thr Thr Glu His

165 170 175

Asp Ala Asp Met Lys Lys Ser Gln Asn Asn Ile Thr Glu Leu Tyr Asn

180 185 190

Val Ser Ile Arg Val Ser Leu Pro Ile Pro Pro Glu Thr Asn Val Ser

195 200 205

Ile Val Cys Val Leu Gln Leu Glu Pro Ser Lys Thr Leu Leu Phe Ser
210 215 220

Leu Pro Cys Asn Ile Asp Ala Lys Pro Pro Val Gln Pro Pro Val Pro 225 230 235 240

Asp His Ile Leu Trp Ile Ala Ala Leu Leu Val Thr Val Val Val Val Val 245 250 255

Cys Gly Met Val Ser Phe Val Thr Leu Arg Lys Arg Lys Lys Gln

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260 265 270

Pro Gly Pro Ser Asn Glu Cys Gly Glu Thr Ile Lys Met Asn Arg Lys
275
280
285

Ala Ser Glu Gln Thr Lys Asn Arg Ala Glu Val His Glu Arg Ser Asp
290 295 300

Asp Ala Gln Cys Asp Val Asn Ile Leu Lys Thr Ala Ser Asp Asp Asn 305 310 315 320

Ser Thr Thr Asp Phe

325

<210> 21

<211> 323

<212> PRT

<213> Homo sapiens

<400> 21

Met Gly Leu Ser Asn Ile Leu Phe Val Met Ala Phe Leu Leu Ser Gly

1 5 10 15

Ala Ala Pro Leu Lys Ile Gln Ala Tyr Phe Asn Glu Thr Ala Asp Leu
20 25 30

Pro Cys Gln Phe Ala Asn Ser Gln Asn Gln Ser Leu Ser Glu Leu Val

, , ,

35 40 45

Val Phe Trp Gln Asp Gln Glu Asn Leu Val Leu Asn Glu Val Tyr Leu
50 55 60

Gly Lys Glu Lys Phe Asp Ser Val His Ser Lys Tyr Met Gly Arg Thr
65 70 75 80

Ser Phe Asp Ser Asp Ser Trp Thr Leu Arg Leu His Asn Leu Gln Ile

85 90 95

Lys Asp Lys Gly Leu Tyr Gln Cys Ile Ile His His Lys Lys Pro Thr

100 105 110

Gly Met Ile Arg Ile His Gln Met Asn Ser Glu Leu Ser Val Leu Ala 115 120 125

Asn Phe Ser Gln Pro Glu Ile Val Pro Ile Ser Asn Ile Thr Glu Asn
130 135 140

Val Tyr Ile Asn Leu Thr Cys Ser Ser Ile His Gly Tyr Pro Glu Pro
145 150 155 160

Lys Lys Met Ser Val Leu Leu Arg Thr Lys Asn Ser Thr Ile Glu Tyr

165 170 175

Asp Gly Ile Met Gln Lys Ser Gln Asp Asn Val Thr Glu Leu Tyr Asp

180 185 190

Val Ser Ile Ser Leu Ser Val Ser Phe Pro Asp Val Thr Ser Asn Met

195 200 205

Thr Ile Phe Cys Ile Leu Glu Thr Asp Lys Thr Arg Leu Leu Ser Ser.
210 215 220

Pro Phe Ser Ile Glu Leu Glu Asp Pro Gln Pro Pro Pro Asp His Ile
225 230 235 240

Pro Trp Ile Thr Ala Val Leu Pro Thr Val Ile Ile Cys Val Met Val
245 250 255

Phe Cys Leu Ile Leu Trp Lys Trp Lys Lys Lys Lys Arg Pro Arg Asn
260 265 270

Ser Tyr Lys Cys Gly Thr Asn Thr Met Glu Arg Glu Glu Ser Glu Gln
275
280
285

Thr Lys Lys Arg Glu Lys Ile His Ile Pro Glu Arg Ser Asp Glu Ala
290 295 300

Gln Arg Val Phe Lys Ser Ser Lys Thr Ser Ser Cys Asp Lys Ser Asp 305 310 315 320

Thr Cys Phe

<210> 22 <211> 309 <212> PRT <213> Mus musculus <400> 22 Met Asp Pro Arg Cys Thr Met Gly Leu Ala Ile Leu Ile Phe Val Thr Val Leu Leu Ile Ser Asp Ala Val Ser Val Glu Thr Gln Ala Tyr Phe Asn Gly Thr Ala Tyr Leu Pro Cys Pro Phe Thr Lys Ala Gln Asn Ile Ser Leu Ser Glu Leu Val Val Phe Trp Gln Asp Gln Gln Lys Leu Val Leu Tyr Glu His Tyr Leu Gly Thr Glu Lys Leu Asp Ser Val Asn Ala Lys Tyr Leu Gly Arg Thr Ser Phe Asp Arg Asn Asn Trp Thr Leu Arg

Leu His Asn Val Gln Ile Lys Asp Met Gly Ser Tyr Asp Cys Phe Ile

Gln Lys Lys Pro Pro Thr Gly Ser Ile Ile Leu Gln Gln Thr Leu Thr
115 120 125

Glu Leu Ser Val Ile Ala Asn Phe Ser Glu Pro Glu Ile Lys Leu Ala 130 135 140

Gln Asn Val Thr Gly Asn Ser Gly Ile Asn Leu Thr Cys Thr Ser Lys

145 150 155 160

Gln Gly His Pro Lys Pro Lys Lys Met Tyr Phe Leu Ile Thr Asn Ser

165 170 175

Thr Asn Glu Tyr Gly Asp Asn Met Gln Ile Ser Gln Asp Asn Val Thr

180 185 190

Glu Leu Phe Ser Ile Ser Asn Ser Leu Ser Leu Ser Phe Pro Asp Gly
195 200 205

Val Trp His Met Thr Val Val Cys Val Leu Glu Thr Glu Ser Met Lys
210 220

Ile Ser Ser Lys Pro Leu Asn Phe Thr Gln Glu Phe Pro Ser Pro Gln
225 230 235 240

Thr Tyr Trp Lys Glu Ile Thr Ala Ser Val Thr Val Ala Leu Leu Leu 245 250 255

Val Met Leu Leu Ile Ile Val Cys His Lys Lys Pro Asn Gln Pro Ser

260 265 270

Arg Pro Ser Asn Thr Ala Ser Lys Leu Glu Arg Asp Ser Asn Ala Asp
275
280
285

Arg Glu Thr Ile Asn Leu Lys Glu Leu Glu Pro Gln Ile Ala Ser Ala
290 295 300

Lys Pro Asn Ala Glu

305

<210> 23

<211> 303

<212> PRT

<213> Mus musculus

<400> 23

Met Gly Leu Ala Ile Leu Ile Phe Val Thr Val Leu Leu Ile Ser Asp 1 5 10 15

Ala Val Ser Val Glu Thr Gln Ala Tyr Phe Asn Gly Thr Ala Tyr Leu
20 25 30

Pro Cys Pro Phe Thr Lys Ala Gln Asn Ile Ser Leu Ser Glu Leu Val
35 40 45

Val Phe Trp Gln Asp Gln Gln Lys Leu Val Leu Tyr Glu His Tyr Leu

50 55 60

Gly Thr Glu Lys Leu Asp Ser Val Asn Ala Lys Tyr Leu Gly Arg Thr
65 70 75 80

Ser Phe Asp Arg Asn Asn Trp Thr Leu Arg Leu His Asn Val Gln Ile

85 90 95

Lys Asp Met Gly Ser Tyr Asp Cys Phe Ile Gln Lys Lys Pro Pro Thr

Gly Ser Ile Ile Leu Gln Gln Thr Leu Thr Glu Leu Ser Val Ile Ala
115 . 120 125

Asn Phe Ser Glu Pro Glu Ile Lys Leu Ala Gln Asn Val Thr Gly Asn
130 135 140

Ser Gly Ile Asn Leu Thr Cys Thr Ser Lys Gln Gly His Pro Lys Pro 145 150 155 160

Lys Lys Met Tyr Phe Leu Ile Thr Asn Ser Thr Asn Glu Tyr Gly Asp

165 170 175

Asn Met Gln Ile Ser Gln Asp Asn Val Thr Glu Leu Phe Ser Ile Ser

180 185 190

Asn Ser Leu Ser Leu Ser Phe Pro Asp Gly Val Trp His Met Thr Val
195 200 205

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Val Cys Val Leu Glu Thr Glu Ser Met Lys Ile Ser Ser Lys Pro Leu
210 215 220

Asn Phe Thr Gln Glu Phe Pro Ser Pro Gln Thr Tyr Trp Lys Glu Ile
225 230 235 240

Thr Ala Ser Val Thr Val Ala Leu Leu Leu Val Met Leu Leu Ile Ile
245 250 255

Val Cys His Lys Lys Pro Asn Gln Pro Ser Arg Pro Ser Asn Thr Ala
260 265 270

Ser Lys Leu Glu Arg Asp Ser Asn Ala Asp Arg Glu Thr Ile Asn Leu 275 280 285

Lys Glu Leu Glu Pro Gln Ile Ala Ser Ala Lys Pro Asn Ala Glu 290 295 300

<210> 24

<211> 534

<212> PRT

<213> Unknown

<220>

<223> Description of Unknown Organism: Sequence
mz5020.protein from Figure 4.

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<400> 24

Met Leu Arg Arg Gly Ser Pro Gly Met Gly Val His Val Gly Ala

1 5 10 15

Ala Leu Gly Ala Leu Trp Phe Cys Leu Thr Gly Ala Leu Glu Val Gln
20 25 30

Val Pro Glu Asp Pro Val Val Ala Leu Val Gly Thr Asp Ala Thr Leu

35 40 45

Cys Cys Ser Phe Ser Pro Glu Pro Gly Phe Ser Leu Ala Gln Leu Asn
50 55 60

Leu Ile Trp Gln Leu Thr Asp Thr Lys Gln Leu Val His Ser Phe Ala
65 70 75 80

Glu Gly Gln Asp Gln Gly Ser Ala Tyr Ala Asn Arg Thr Ala Leu Phe

85 90 95

Pro Asp Leu Leu Ala Gln Gly Asn Ala Ser Leu Arg Leu Gln Arg Val

100 105 110

Arg Val Ala Asp Glu Gly Ser Phe Thr Cys Phe Val Ser Ile Arg Asp
115 120 125

Phe Gly Ser Ala Ala Val Ser Leu Gln Val Ala Ala Pro Tyr Ser Lys

130 135 140

Pro Ser Met Thr Leu Glu Pro Asn Lys Asp Leu Arg Pro Gly Asp Thr Val Thr Ile Thr Cys Ser Ser Tyr Gln Gly Tyr Pro Glu Ala Glu Val Phe Trp Gln Asp Gly Gln Gly Val Pro Leu Thr Gly Asn Val Thr Thr Ser Gln Met Ala Asn Glu Gln Gly Leu Phe Asp Val His Ser Ile Leu Arg Val Val Leu Gly Ala Asn Gly Thr Tyr Ser Cys Leu Val Arg Asn Pro Val Leu Gln Gln Asp Ala His Ser Ser Val Thr Ile Thr Pro Gln Arg Ser Pro Thr Gly Ala Val Glu Val Gln Val Pro Glu Asp Pro Val Val Ala Leu Val Gly Thr Asp Ala Thr Leu Arg Cys Ser Phe Ser Pro

Glu Pro Gly Phe Ser Leu Ala Gln Leu Asn Leu Ile Trp Gln Leu Thr

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Asp	Thr	Lys	Gln	Leu	Val	His	Ser	Phe	Thr	Glu	Gly	Arg	Asp	Gln	Gly
	290					295					300				
	Ala	Tyr	Ala	Asn		Thr	Ala	Leu	Phe		Asp	Leu	Leu	Ala	
305					310					315					320
Gly	Asn	Ala	Ser		Arg	Leu	Gln	Arg		Arg	Val	Ala	Asp	Glu	Gly
				325					330					335	
Ser	Phe	Thr	Cys	Phe	Val	Ser	Ile	Arg 345	Asp	Phe	Gly	Ser	Ala 350	Ala	Val
			240					343					330		
Ser	Leu	Gln 355	Val	Ala	Ala	Pro	Tyr 360	Ser	Lys	Pro	Ser	Met 365	Thr	Leu	Glu
		333					300				,	303			
Pro	Asn 370	Lys	Asp	Leu	Arg	Pro 375	Gly	Asp	Thr	Val	Thr 380	Ile	Thr	Cys	Ser
	3,0					3,3					300				
	Tyr	Arg	Gly	Tyr		Glu	Ala	Glu	Val		Trp	Gln	Asp	Gly	
385					390					395					400
Gly	Val	Pro	Leu		Gly	Asn	Val	Thr		Ser	Gln	Met	Ala	Asn	Glu
				405					410					415	

Asn Gly Thr Tyr Ser Cys Leu Val Arg Asn Pro Val Leu Gln Gln Asp

Gln Gly Leu Phe Asp Val His Ser Val Leu Arg Val Val Leu Gly Ala

425

420

435 440 445

Ala His Gly Ser Val Thr Ile Thr Gly Gln Pro Met Thr Phe Pro Pro
450 455 460

Glu Ala Leu Trp Val Thr Val Gly Leu Ser Val Cys Leu Ile Ala Leu 465 470 475 480

Leu Val Ala Leu Ala Phe Val Cys Trp Arg Lys Ile Lys Gln Ser Cys
485 490 495

Glu Glu Glu Asn Ala Gly Ala Glu Asp Gln Asp Gly Glu Gly Glu Gly
500 505 510

Ser Lys Thr Ala Leu Gln Pro Leu Lys His Ser Asp Ser Lys Glu Asp 515 520 525

Asp Gly Gln Glu Ile Ala 530

<210> 25

<211> 350

<212> PRT

<213> Homo sapiens

<400> 25

Met Ala Ser Phe Leu Ala Phe Leu Leu Leu Asn Phe Arg Val Cys Leu

. .

1 5 10 15

Leu Leu Gln Leu Leu Met Pro His Ser Ala Gln Phe Ser Val Leu
20 25 30

Gly Pro Ser Gly Pro Ile Leu Ala Met Val Gly Glu Asp Ala Asp Leu
35 40 45

Pro Cys His Leu Phe Pro Thr Met Ser Ala Glu Thr Met Glu Leu Lys
50 55 60

Trp Val Ser Ser Ser Leu Arg Gln Val Val Asn Val Tyr Ala Asp Gly
65 70 75 80

Lys Glu Val Glu Asp Arg Gln Ser Ala Pro Tyr Arg Gly Arg Thr Ser

85 90 95

Ile Leu Arg Asp Gly Ile Thr Ala Gly Lys Ala Ala Phe Arg Ile His

100 105 110

Asn Val Thr Gly Ser Asp Arg Trp Lys Tyr Leu Cys Tyr Phe Gln Asp 115 120 125

Gly Asp Phe Tyr Glu Lys Ala Leu Val Glu Leu Lys Val Ala Ala Leu
130 135 140

Gly Ser Asp Leu His Val Asp Val Lys Gly Tyr Lys Asp Gly Gly Ile
145 150 155 160

His Leu Glu Cys Arg Ser Thr Gly Trp Tyr Pro Gln Pro Gln Ile Gln Trp Ser Asn Asn Lys Gly Glu Asn Ile Pro Thr Val Glu Ala Pro Val Val Ala Asp Gly Val Gly Leu Tyr Ala Val Ala Ala Ser Val Ile Met Arg Gly Ser Ser Gly Glu Gly Val Ser Cys Thr Ile Arg Asn Ser Leu Leu Gly Leu Glu Lys Thr Ala Ser Ile Ser Ile Ala Arg Pro Phe Phe Arg Ser Ala Gln Arg Trp Ile Ala Ala Leu Ala Gly Thr Leu Pro Val Leu Leu Leu Leu Gly Gly Ala Gly Tyr Phe Leu Trp Gln Gln Gln

Glu Glu Lys Lys Thr Gln Phe Arg Lys Lys Lys Arg Glu Gln Glu Leu 275 280 285

Arg Glu Met Ala Trp Ser Thr Met Lys Gln Glu Gln Ser Thr Arg Val
290 295 300

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Lys Leu Leu Glu Glu Leu Arg Trp Arg Ser Ile Gln Tyr Ala Ser Arg
305 310 315 320

Gly Glu Arg His Ser Ala Tyr Asn Glu Trp Lys Lys Ala Leu Phe Lys

325 330 335

Pro Gly Glu Glu Met Leu Gln Met Arg Leu His Phe Val Lys
340 345 350

K' Conel